



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/734,079	12/11/2003	Russell M. Sylvia	0100.2073-000	7974
21005	7590	05/10/2005	EXAMINER	
HAMILTON, BROOK, SMITH & REYNOLDS, P.C. 530 VIRGINIA ROAD P.O. BOX 9133 CONCORD, MA 01742-9133			DOERRLER, WILLIAM CHARLES	
			ART UNIT	PAPER NUMBER
			3744	

DATE MAILED: 05/10/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/734,079

Applicant(s)

SYLVIA ET AL.

Examiner

William C Doerrier

Art Unit

3744

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-50 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 19,39,49 and 50 is/are allowed.
- 6) ☒ Claim(s) 1-3,6-18,20-23,26-38,40,41 and 46-48 is/are rejected.
- 7) ☒ Claim(s) 4,5,24,25 and 42-45 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 May 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 5-20-2004.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: ____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

Claims 1-2,6-10,16-18,20-22,26-30,36-38 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kercheval et al in view of Kuriyama et al.

Kercheval et al disclose applicants' basic inventive concept, a piston sealing system with a first seal ring 40 and a flanged load ring 44 (both polymeric) with a spring 42 forcing the load ring axially toward the first seal ring (line 14 of column 4 states that a wavy washer can be used for the spring) of a refrigeration system, substantially as claimed with the exception of using a first and second seal ring. Kuriyama et al show this feature to be old in the refrigeration piston sealing art with first and second seal

rings 62 and 63. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention from the teaching of Kuriyama et al to modify the refrigeration system piston seal of Kerchival et al by using a first and second seal ring to improve the sealing of the piston.

Claims 3,11,12,23,31 and 32 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kerchival et al in view of Kuriyama et al as applied to claims 1,2,6-10,16-18,20-22,26-30,36-38 and 40 above, and further in view of Sasaki.

Kerchival et al, as modified, discloses applicants' basic inventive concept, a piston for a refrigerator having an axial spring holding first and second seal rings in place, substantially as claimed with the exception of using 2 radial springs and using an L ring as the seal ring. Sasaki (in figure 3) shows these features to be old in the art with springs 5 and 16 holding L rings 7 and 13 in place. It would have been obvious to one of ordinary skill in the art at the time of applicants' invention from the teaching of Sasaki to modify the seal structure of Kerchival by using multiple springs to improve the spring force and to use L-rings to provide a high surface area with relatively little material. In regard to claims 12 and 32, it is considered obvious to an ordinary practitioner in the art to separate the openings of the springs by 180 degrees to provide a constant spring force around the entire perimeter of the seal.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA

1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970);and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

Claims 1,8-18,21,28-38,41 and 46-48 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 3,7-11,14-18,21,25,29 and 34 of U.S. Patent No. 6,598,406. Although the conflicting claims are not identical, they are not patentably distinct from each other because the patented claims claim the same structure, a seal for a refrigerator piston having two seal rings held together by an axially applied spring force, substantially as currently claimed with the exception that the current claims specify that flat surfaces of the seals rings abut and form seals against the piston body. These further clarifications are seen as obvious to an ordinary practitioner in the art since it is assumed that when two objects are brought together, their surfaces will abut and the purpose of seal rings is to form a seal.

Allowable Subject Matter

Claims 4,5,24,25 and 42-45 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Claims 19,39,49 and 50 are allowed.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Briney and Van Vleet show seal rings with axially compressing springs.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William C Doerrler whose telephone number is (571) 272-4807. The examiner can normally be reached on Monday-Friday 6:30-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl Tyler can be reached on (571) 272-4834. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



William C Doerrler
Primary Examiner
Art Unit 3744

WCD